

**PATENT COOPERATION TREATY**  
**PCT**  
**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**

REC'D 11 JAN 2005

PCT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>605988C</b>	<b>FOR FURTHER ACTION</b>	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).
International Application No. <b>PCT/AU2003/001090</b>	International Filing Date (day/month/year) <b>27 August 2003</b>	Priority Date (day/month/year) <b>27 August 2002</b>
International Patent Classification (IPC) or national classification and IPC  <b>Int. Cl.<sup>7</sup> C02F 1/52, 1/58, C05F 9/04</b>		
Applicant  <b>NAUVEAU TECHNOLOGY INVESTMENTS LTD et al</b>		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets, including this cover sheet.  
☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 1 sheet(s).

3. This report contains indications relating to the following items:

- |      |                                     |   |
|------|-------------------------------------|---|
| I    | <input checked="" type="checkbox"/> | Basis of the report   |
| II   | <input type="checkbox"/>            | Priority  |
| III  | <input type="checkbox"/>            | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| IV   | <input type="checkbox"/>            | Lack of unity of invention  |
| V    | <input checked="" type="checkbox"/> | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| VI   | <input type="checkbox"/>            | Certain documents cited   |
| VII  | <input type="checkbox"/>            | Certain defects in the international application  |
| VIII | <input type="checkbox"/>            | Certain observations on the international application   |

Date of submission of the demand <b>29 March 2004</b>	Date of completion of the report <b>21 December 2004</b>
Name and mailing address of the IPEA/AU  <b>AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929</b>	Authorized Officer  <b>ADRIAN GILLMORE</b>  Telephone No. (02) 6283 2125

**I. Basis of the report**

1. With regard to the elements of the international application:\*
- ☐ the international application as originally filed.
- ☒ the description, pages 1-29, as originally filed,  
pages , filed with the demand,  
pages , received on with the letter of
- ☒ the claims, pages 30-31, 33 as originally filed,  
pages , as amended (together with any statement) under Article 19,  
pages , filed with the demand,  
pages 32, received on 22 July 2004 with the letter of the same
- ☐ the drawings, pages , as originally filed,  
pages , filed with the demand,  
pages , received on with the letter of
- ☐ the sequence listing part of the description:  
pages , as originally filed  
pages , filed with the demand  
pages , received on with the letter of
2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.  
These elements were available or furnished to this Authority in the following language which is:
- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).
3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:
- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished
4. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/fig.
5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims 1, 25-35	YES
	Claims 2-24	NO
Inventive step (IS)	Claims 1, 25-35	YES
	Claims 2-24	NO
Industrial applicability (IA)	Claims 1-35	YES
	Claims	NO

**2. Citations and explanations (Rule 70.7)**

D1: WO 2002/034673

D2: HU 208102

D1 discloses treating water containing dissolved inorganics with neutralised red mud. However, it does not disclose the treatment of water containing suspended solids as required in claim 1. Thus, claim 1 is novel and inventive over D1.

D1 discloses using red mud or treated red mud to treat wastewater as described in claims 2, 18 and 19. The applicant's arguments that D1 does not disclose treatment of water containing dissolved phosphorous species or sulfur species is incorrect. Such substances are specifically disclosed in D1 (see page 8, lines 10-15 for example). In the subsequent pages, several examples of additives are discussed, to be used depending on the circumstances of treatment, and use of precipitating agents as required in claim 2. Furthermore, whilst no mention is specifically made that removal of sulfur containing compounds is done to decrease odour, sulfur compounds are well known for their odour, and removing them would be expected to reduce that odour as required in claims 18 and 19. Thus claims 2, 18 and 19 are not novel or inventive in light of D1. In addition, none of the remaining claims 3-17, 20-24 and 33-35 appear to add any new or inventive material beyond the purview of a skilled addressee.

D2 discloses adding red mud to a composting process, but not the use of neutralised red mud as required by claim 25. Hence claim 25-32 are novel in light of D2.

All claims are industrially applicable.

20. The process of claim 18 or 19, wherein said material is selected from the group consisting of sewage, sludge or compost.

21. The process of claim 19, wherein said odour is produced by microorganisms.

22. The process of any one of claims 18 to 21, wherein the amount of said  
5 treating substance is at least 5% by weight of material.

23. The process of claim 22, wherein the amount of said treating substance is between 10 to 50% by weight of material.

24. The process of claim 22, wherein the amount of said treating substance is about 25% by weight of material.

10 25. A composting process in which a compostable material is mixed with an amount of a material containing microorganisms and the microorganisms convert the compostable material to compost, wherein the mixture of compostable material and the material containing microorganisms further contains a treating substance that is red mud that has been at least partially reacted with calcium and/or magnesium ions so as to have a  
15 reaction pH, when mixed with five times its weight of water, of less than 10.5.

26. The process of claim 25, wherein the amount of said treating substance is between 2 and 20% by weight of said compostable material.

27. The process of claim 25, wherein the amount of said treating substance is about 7% by weight of said compostable material.

20 28. The process of claim 25, wherein said material containing microorganisms and the treating substance are added together.

29. The process of claim 25, wherein said material containing microorganisms and the treating substance are added together in the form of sludge separated from sewage by the process of any one of claims 1 to 17.

25 30. The process of claim 25, wherein said material containing microorganisms and the treating substance are added together in the form of material treated by the process of any one of claims 18 to 24.

31. The process of claim 29 or 30, wherein the amount of said treating substance is about 25% by weight of total solids.